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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/749,994	12/30/2003	Byoung-Gon Lee	51876P572	9988

8791 7590 08/08/2006

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EXAMINER

OSORIO, RICARDO

ART UNIT PAPER NUMBER

2629

DATE MAILED: 08/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/749,994

**Applicant(s)**

LEE, BYOUNG-GON

**Examiner**

RICARDO L. OSORIO

**Art Unit**

2629

– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 30 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>2/12/04;3/18/05</u> . | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

2. Claims 1-5 are rejected under 35 U.S.C. 102(a) as being anticipated by Kim (1020020036862).

Regarding claim 1, Kim discloses an apparatus for changing representation contents on a sub-display of a mobile communication terminal (see Fig. 3), comprising a rotary switch (Fig. 3 character 30) rotatably installed around a front circumferential portion of the sub-display provided in a dual-folder type mobile communication terminal, the rotary switch having an opening formed at a central portion such that the sub-display is exposed outwardly (see Fig. 3, characters 10,20,30, and CONSTITUTION, lines 3-5); a rotation detecting sensor installed adjacent to a back portion of the rotary switch inside a case of the terminal for sensing a rotation of the rotary switch to generate a predetermine input signal (CONSTITUTION, LINES 6 and 7); and a controller installed inside the case of the terminal, the controller having one side connected to the rotation detecting sensor and the other side connected to the sub-display (although not specifically mentioned, the presence of a controller is inherent because a controller is necessary to receive the output from the rotation sensor and send a signal for displaying according to said output from said sensor) wherein the controller generates different output signals according to the input signal outputted from the rotation detecting sensor to thereby display different contents

on the sub-display (see constitution, lines 8-10. Again, as above, the use of a controller is inherent since a controlling means is needed to generate an output signal related to display information which depends on the input from the rotation detecting sensor).

Regarding claim 2, Kim discloses a memory device installed in one side of a circuit board embedded in the terminal, for storing data to be displayed on the sub-display; and a microprocessor installed in the other side of the circuit board, for loading and processing the data stored in the memory device according to the input signals outputted from the rotation detecting sensor and transferring the processed signals to the sub-display (Although Kim does not specifically mention a memory device and a microprocessor, it is inherent for a standard mobile phone to have a memory device for storing information and a microprocessor for processing the many functions and applications of a standard mobile phone. Regarding the scope in question, Kim teaches of displaying the time of all the countries of the world in accordance with an operation of the dial switch (see constitution, lines 7-10). Therefore, it is inherent for the device of Kim to have a memory device and a microprocessor because memory is needed to store the different times according to the specific nation set by the user, and a microprocessor is needed to load and process the time data stored in the memory according to the user operation of the dial switch.

Regarding claim 3, Kim discloses that the rotary switch includes a plurality of protrusions formed on a circumferential portion of the rotary switch at predetermined intervals along a circumferential direction (constitution, lines 4 and 11-13), and a locking member is formed at one side of a terminal case adjacent to the protrusions of the rotary switch, the locking member

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having a groove formed in a shape corresponding to the protrusion (Although, not specifically mentioned, it is inherent for a locking member to be needed so that the contact protrusion selected can be stopped in place, said member needs to have a space or groove shape where the protrusion may fit and stop, or lock).

Regarding claim 4, Kim discloses that the rotary switch includes a body formed in a ring shape; and a plurality of protrusion pieces protruded inwardly or outwardly in a radial direction at predetermined intervals along a circumferential direction (constitution, lines 4 and 11-13).

Regarding claim 5, Kim discloses that the rotation detecting sensor is an optical sensor, wherein the optical sensor includes a light-emitting unit for radiating light toward the protrusion pieces; and light-receiving unit for sensing the light reflected by the protrusion pieces (see Kim detailed description translation, paragraph 31. Although not specifically mentioned, it is inherent that an optical encoder to detect rotation of the rotary switch will include a light-emitting unit and a light-receiving unit for sensing light reflected by the protrusion pieces).

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kim (see above) in view of Badarneh (US 2004/0233159).

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Regarding claim 6, Kim teaches that the rotary switch includes a body formed in a ring shape (see Fig. 3, character 30).

However Kim fails to teach of a plurality of magnets attached to the body at predetermined intervals along a circumferential direction, and the rotation detecting sensor is a magnetic sensor for sensing a magnetic field of the magnet approaching thereto due to a rotation of the rotary switch.

Badarneh teaches of a plurality of magnets attached to the body at predetermined intervals along a circumferential direction, and the rotation detecting sensor is a magnetic sensor for sensing a magnetic field of the magnet approaching thereto due to a rotation of the rotary switch (Figs. 3a-3c and paragraph 69).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have the magnetic rotary switch sensor, as taught by Badarneh, in the rotary switch of Kim for improved and easier operation of electronic equipment, including mobile telephones, and to have a minimum number of switches to deal with (see paragraph 3 of Badarneh).

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ricardo L. Osorio whose telephone number is 571-272-7676. The examiner can normally be reached on Monday through Thursday from 7:00 A.M. to 5:30 P.M. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala whose telephone number is 571-272-7681.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to: 571-273-8300 (for Technology Center 2600 only)

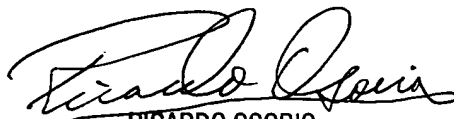
Hand-delivered responses should be brought to the Customer Service Window at the Randolph Building, 401, Dulany Street, Alexandria, VA 22314.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Technology Division: 2629

RLO  
August 5, 2006

  
RICARDO OSORIO  
PRIMARY EXAMINER